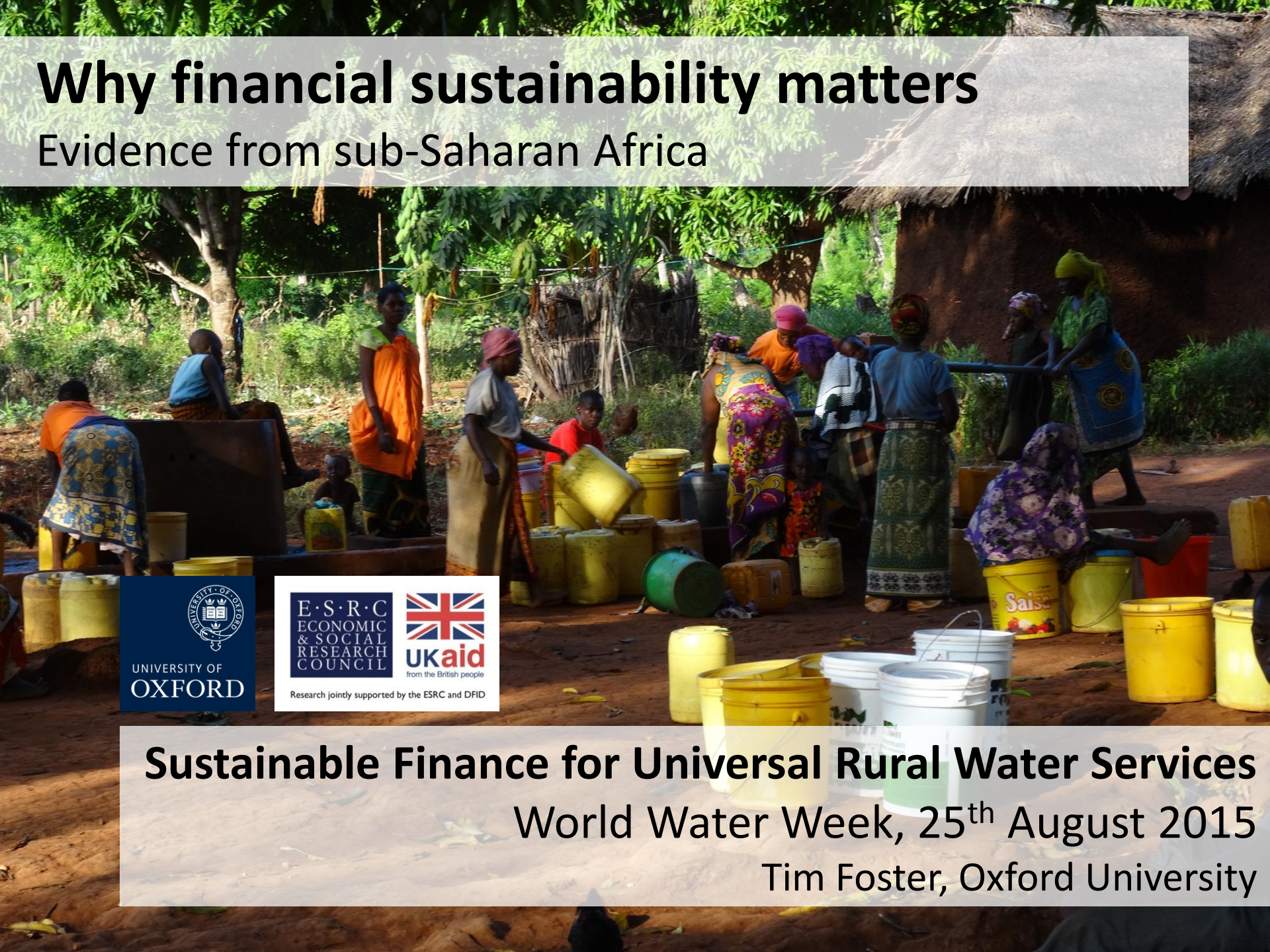
Why financial sustainability matters

Evidence from sub-Saharan Africa



UNIVERSITY OF OXFORD

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

UKaid from the British people

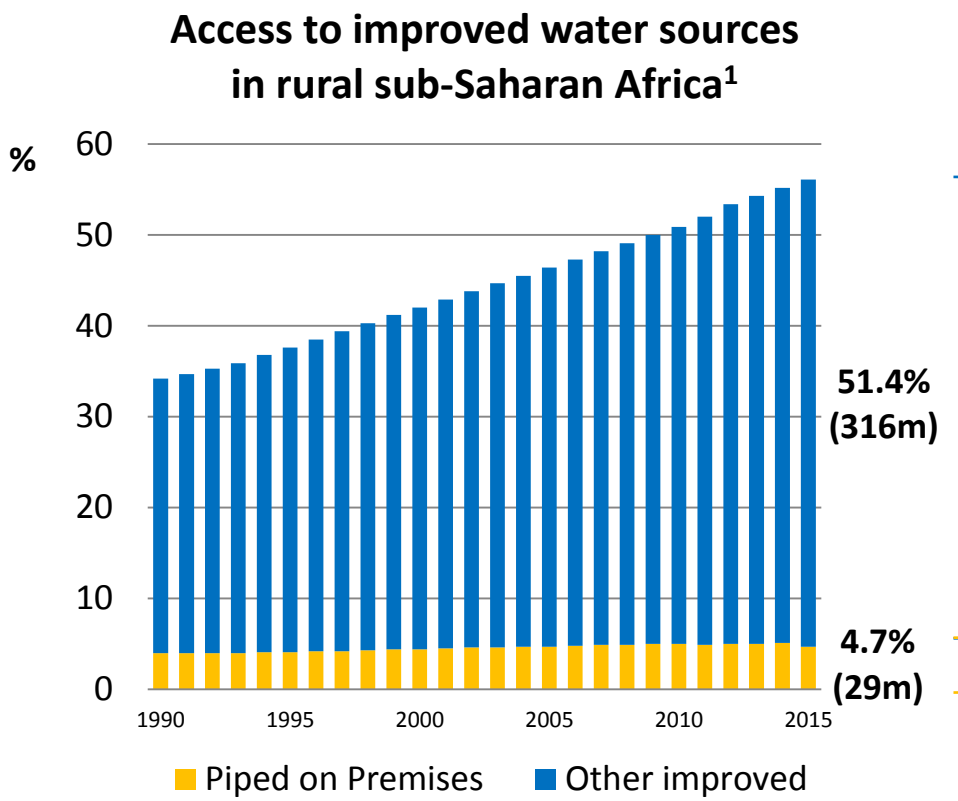
Research jointly supported by the ESRC and DFID

Sustainable Finance for Universal Rural Water Services

World Water Week, 25th August 2015

Tim Foster, Oxford University

Water service delivery costs in rural sub-Saharan Africa likely exceed $1b per year



184m handpump users[2]
- O&M costs:[3] ~$485m p.a.

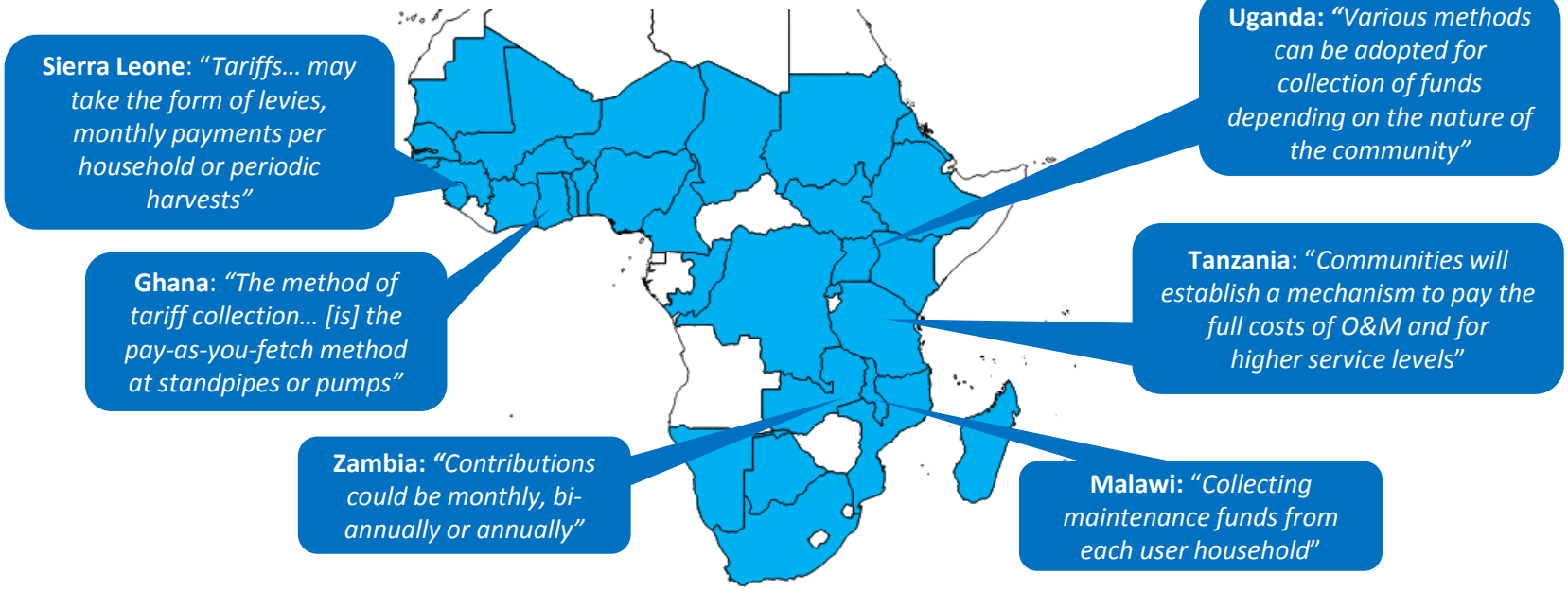
70m standpipe users[4]
- O&M costs:[5] ~$490m p.a.

29m with piped connections
- O&M costs:[5] ~$205m p.a.

1. Data drawn from WHO/UNICEF Joint Monitoring Programme (2015).
2. Estimate from Macarthur (2014). This corresponds with number of users of boreholes & protected wells, as calculated from JMP country files.
3. Based on mid-points of annual O&M cost requirement of US $2-3 per person (WASHCost 2011, adjusted to 2014 values).
4. Calculated from JMP country files.
5. Based on mid-points of annual O&M cost requirement of US $2-12 per person (WASHCost 2011, adjusted to 2014 values).

Community-based financing of O&M widely promoted in policies & assumed in finance plans

= country with rural water cost recovery policy or financing plan assuming O&M costs covered by household contributions



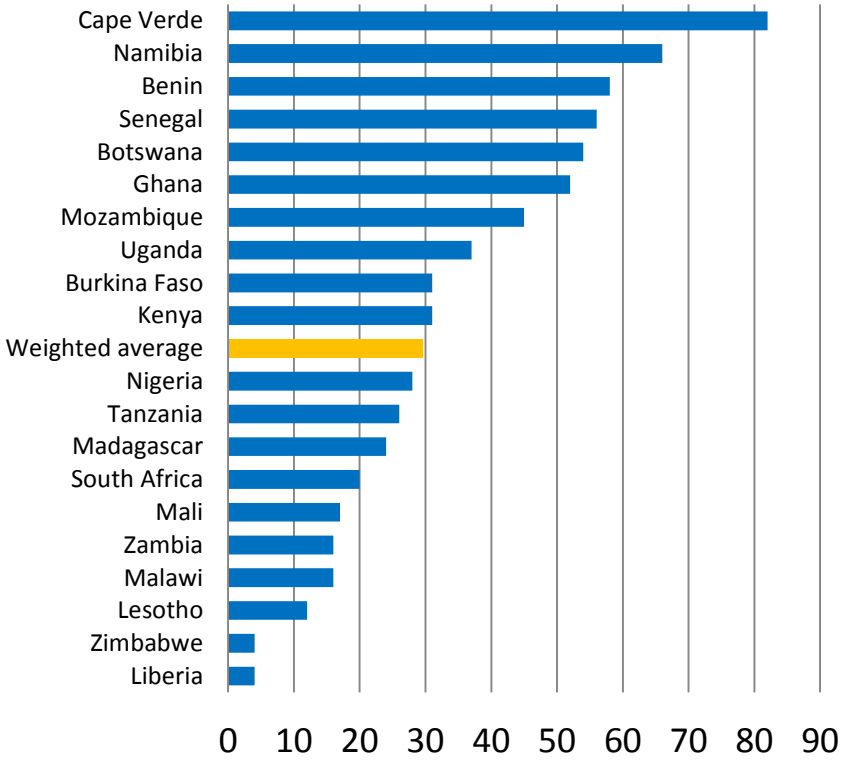
Some policies promote cost sharing for major repairs and rehabilitation

1. Based on information presented in Banerjee & Morella (2011) and GLAAS (2014). Banerjee & Morella (2011) listed countries with a rural water cost recovery strategy. GLAAS (2014) listed countries with a "financing plan [which] defines if operating and basic maintenance is to be covered by tariffs or household contributions". Quotes taken from the following sources: Malawi Ministry of Irrigation and Water Development (2010), Tanzania Ministry of Water and Livestock Development (2002), Zambia Ministry of Local Government and Housing (2007), Uganda Ministry of Water and Environment (2011), Sierra Leone Ministry of Water Resources (2013), Ghana Community Water & Sanitation Agency (2011),

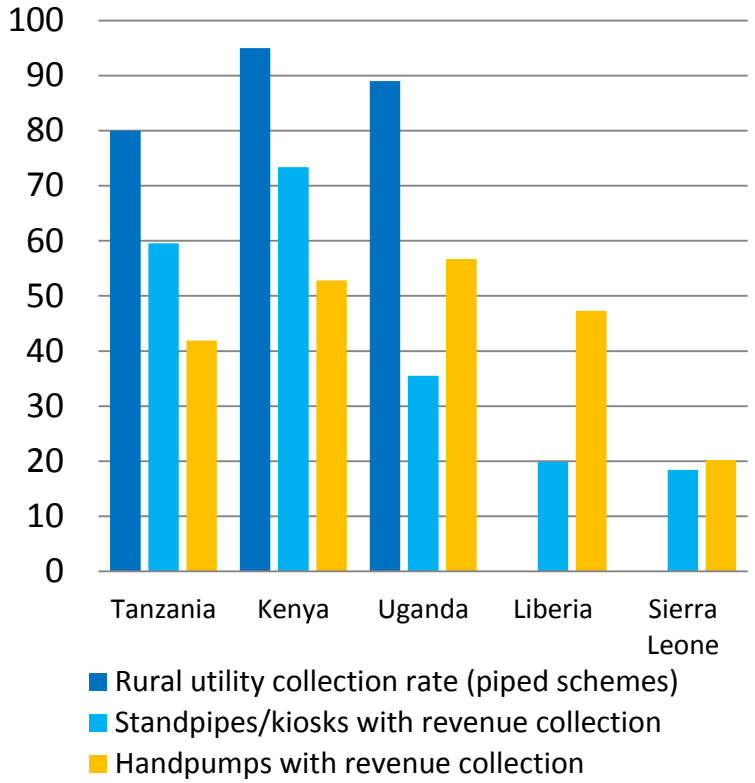
Mismatch between policy and reality

Majority of waterpoints lack revenue collection

Rural households paying for water (2008-09)[1]



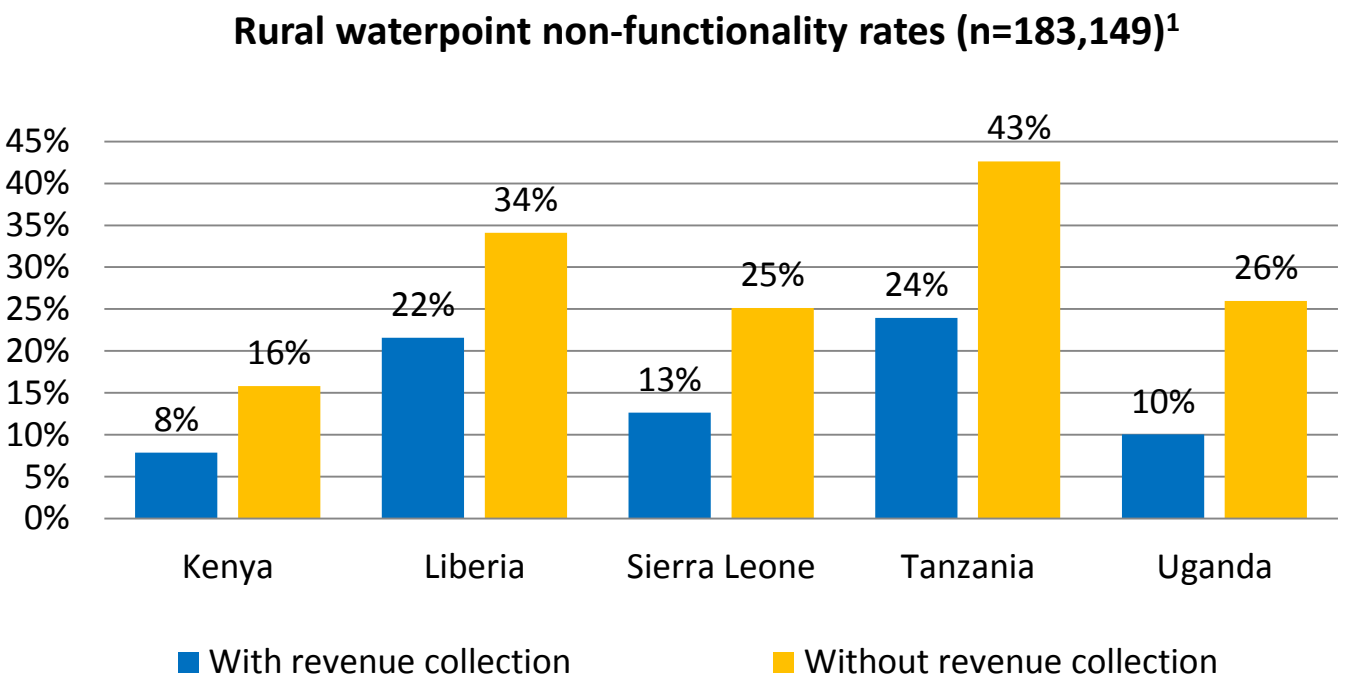
Revenue collection rates[2]



1. n=17,515 (Afrobarometer, 2014). Available at: http://afrobarometer.org/data.
2. Piped scheme data obtained from Uganda Ministry of Water and Environment (2014), WASREB (2014), EWURA (2014). Analysis excludes waterpoints located in urban areas. Analysis based on publicly available waterpoint datasets (Virtual Kenya, 2015; National Water Sanitation and Hygiene Promotion Committee, 2014; Sierra Leone, STATWASH Portal; Government of Tanzania, 2014; Government of Uganda, 2012). For additional data see Waterpoint Data Exchange http://www.waterpointdata.org

Inadequate finance has major operational implications

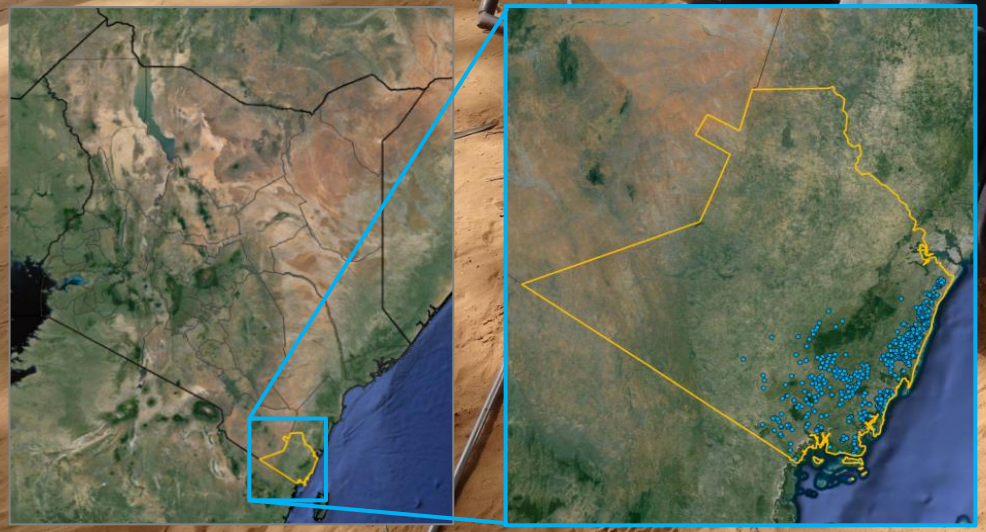
Non-functionality rate twice as high when no revenue collected



If SDG is to be achieved in rural Sub-Saharan Africa then financial sustainability must be addressed

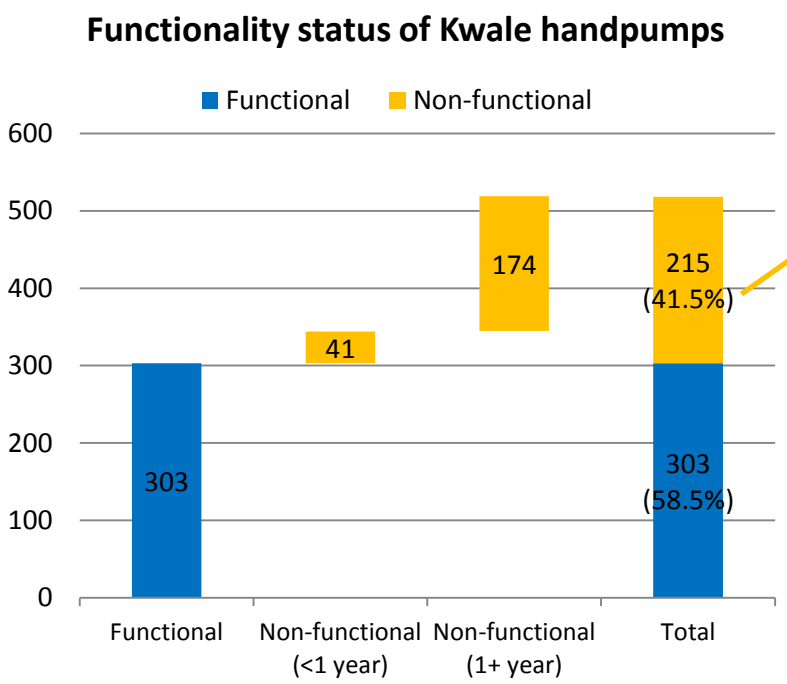
1. Waterpoints analysed include standpipes, kiosks, handpumps and protected springs. Analysis excludes waterpoints located in urban areas. Data drawn from publicly available waterpoint datasets (Virtual Kenya, 2015; National Water Sanitation and Hygiene Promotion Committee, 2014; Sierra Leone, STATWASH Portal 2014; Government of Tanzania, 2014; Government of Uganda, 2012). For additional data see Waterpoint Data Exchange http://www.waterpointdata.org/

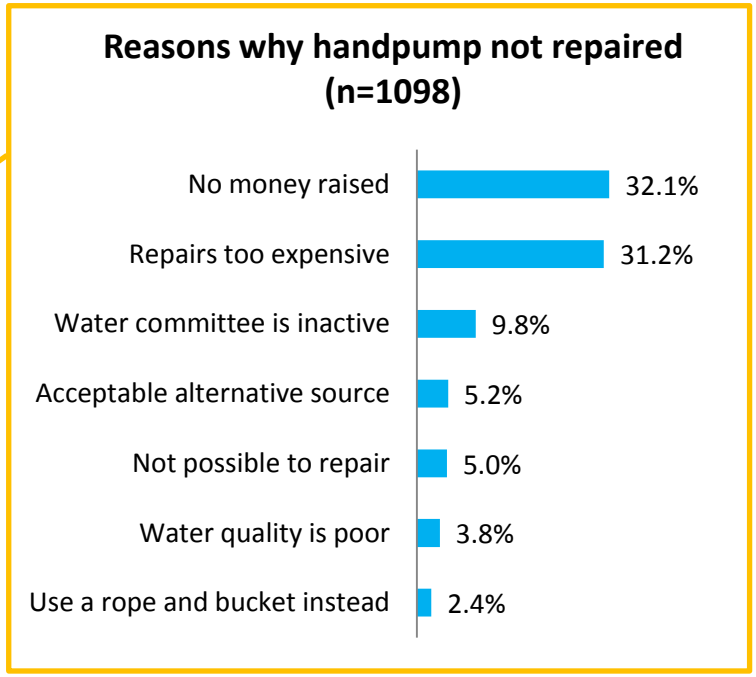
Evidence from Kwale, Kenya



Two in five handpumps non-functional

Most households cite financial reasons for lack of repairs



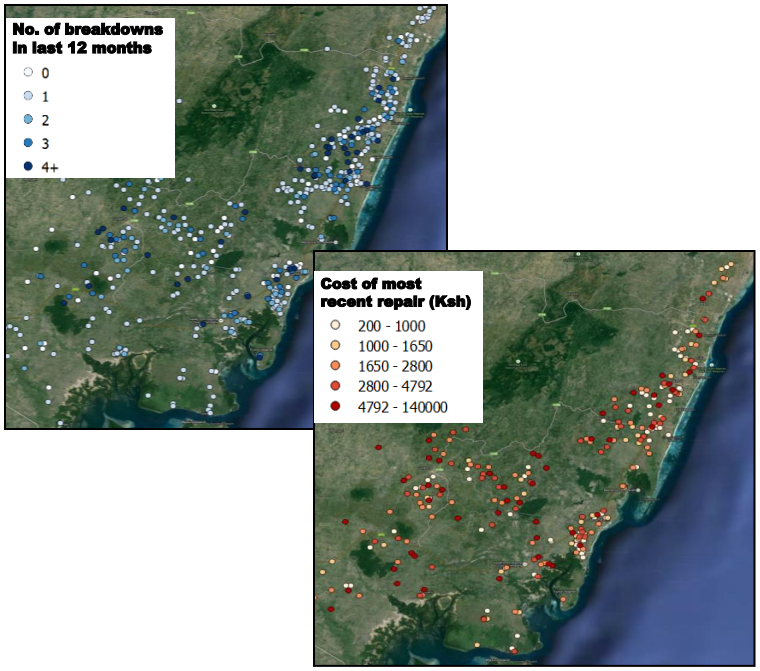


40% of households resort to unimproved water sources when handpump breaks down

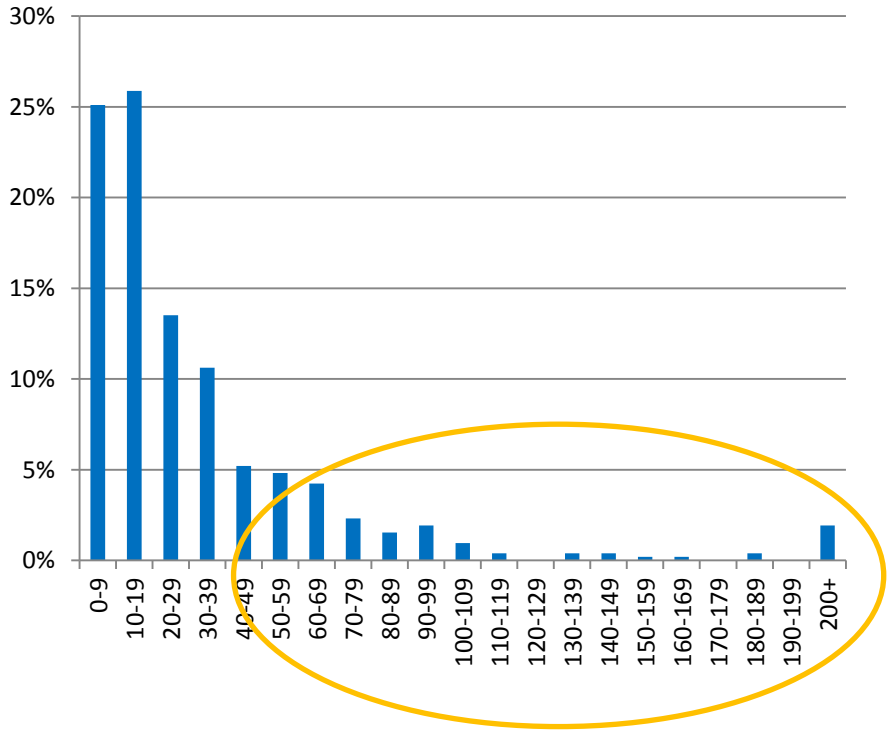
Variation in frequency and cost of breakdowns

Communities struggle to fund low-probability, high cost events

Frequency and cost of breakdowns

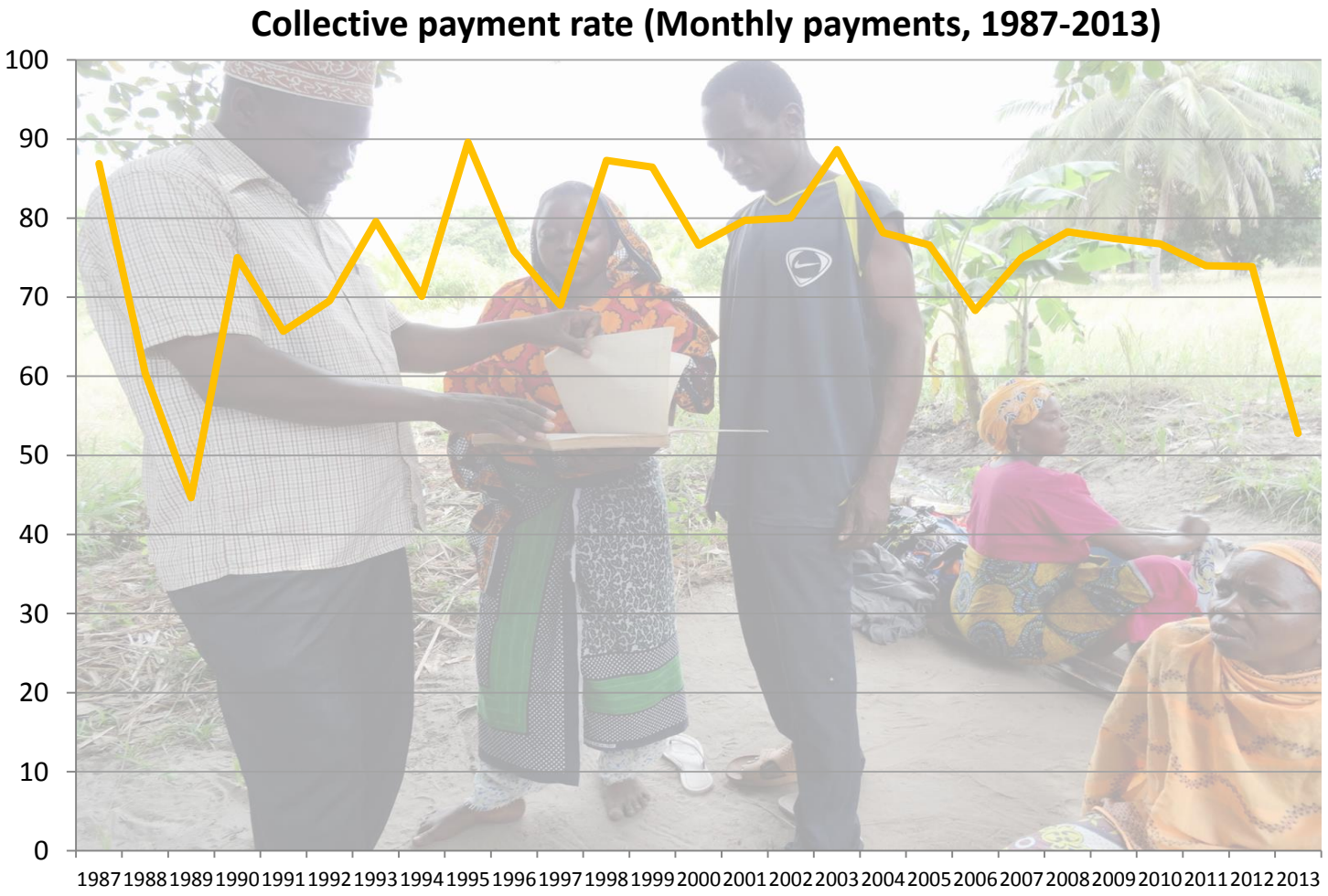


Distribution of repair costs (USD)



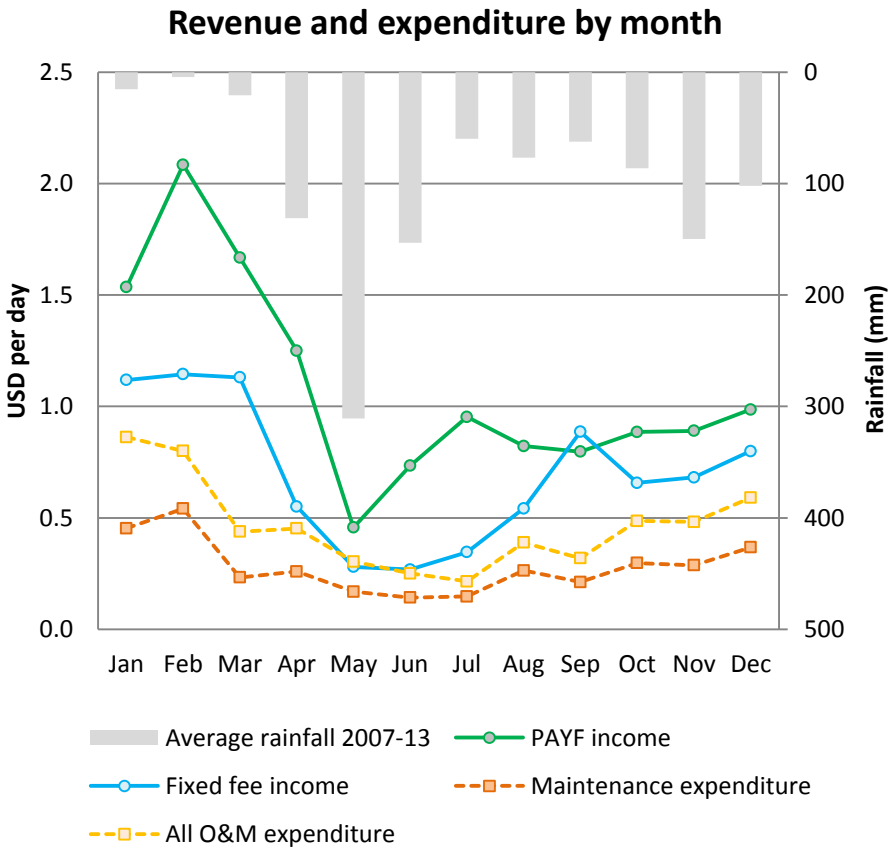
Late payment and non-payment are common

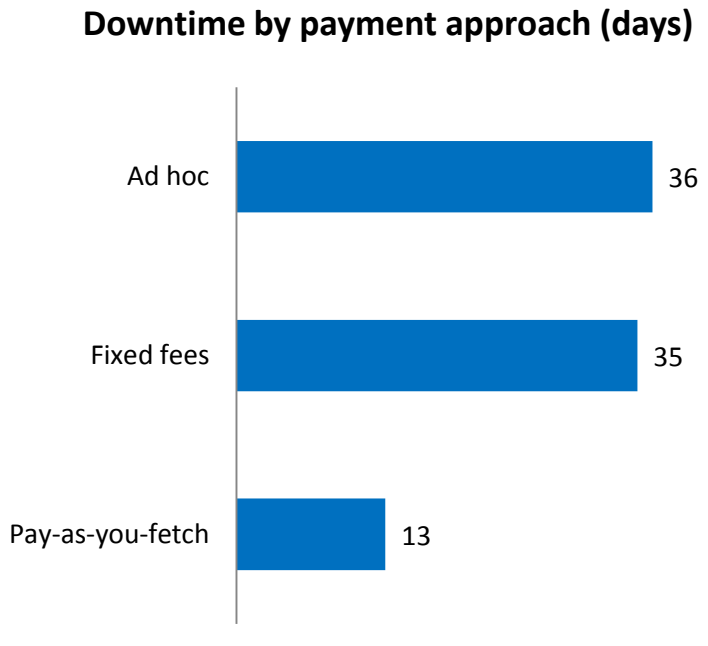
Payments predicted by pH, taste, group size and rainfall season



Pay-as-you-fetch: higher income and lower downtime

Cash flows heavily influenced by rainfall





Summary

- **Finances critical to rural water sustainability & SDG**
  - Annual service delivery expenditure needs likely exceed $1b
- **Mismatch between policy and reality**
  - Community-based financing promoted in policies and plans
  - Majority of waterpoints lack revenue collection system
- **Key insights from Kwale, Kenya**
  - Inadequate finance has impact on safe water access
  - Communities struggle with repair cost variability
  - Non-payment prevalent and shaped by social & environmental factors
  - Pay-as-you-fetch generates most cash and reduces downtime